

Preliminary Amendment of the Claims

The listing of the claims, below, will replace all prior versions and listings of claims in the application.

Listing of the Claims:

1. (currently amended) A ~~separation~~ method of separating particles from a solution while minimizing particle loss comprising the steps of:
 - (a) combining a solution and a finely divided particulate matrix material, where said matrix material is insoluble in said solution, in the presence of a detergent;
 - (b) collecting the particles of the particulate matrix material; and
 - (c) ~~removing~~ separating the supernatant from the particulate matrix material; wherein said detergent is an anionic detergent selected from the group consisting of sodium dodecyl sulfate (SDS), sarkosyl, and combinations thereof; and wherein said detergent is at a concentration of from 0.0005% to 2.0% (v/v).

2. (currently amended) ~~[[A]]~~ In a method for isolating a molecule from a sample in a vessel using affinity particles, comprising the steps of:
 - (a) combining the sample containing a molecule of interest with affinity particles suitable for binding said molecule, said affinity particles being insoluble in the sample;
 - (b) collecting the affinity particles;
 - (c) separating the affinity particles from the unbound remainder of the sample;
 - (d) optionally, resuspending the affinity particles in a solution;
 - (e) optionally, eluting said molecule from the affinity particles, followed by separating the affinity particles from said eluted molecule;the improvement wherein at least one of steps (a), (b), (c), (d) if present, and (e) if present is performed in the presence of detergent wherein the amount of detergent is sufficient to reduce loss of particles during any separation step, in comparison

to the same method performed in the absence of detergent; and wherein said detergent is an anionic detergent selected from the group consisting of sodium dodecyl sulfate (SDS), sarkosyl, and combinations thereof; and, where present, said detergent is at a concentration of from 0.0005% to 2.0% (v/v).

Claims 3-32 (canceled)

33. (currently amended) A ~~separation~~ method of separating particles from a solution comprising the steps of:

- (a) incubating a finely divided particulate matrix material in the presence of a detergent wherein the amount of detergent is sufficient to reduce loss of particles during any separation step;
- (b) dispersing said particulate matrix material in a solution sample;
- (c) collecting the particles of the particulate matrix material; and
- (d) ~~removing~~ separating the supernatant from the particulate matrix material, wherein said detergent is an anionic detergent selected from the group consisting of sodium dodecyl sulfate (SDS), sarkosyl, and combinations thereof; and wherein said detergent is at a concentration of from 0.0005% to 2.0% (v/v).

34. (currently amended) [[A]] In a method for isolating a molecule of interest from a sample in a vessel using affinity particles, comprising the steps of:

- (a) providing a multiplicity of affinity particles having a binding affinity for said molecule of interest ~~and incubating said particles in the presence of a detergent;~~
- (b) combining the sample containing the molecule of interest with affinity particles suitable for binding said molecule of interest, said affinity particles being insoluble in the sample;
- (c) collecting the affinity particles;
- (d) separating the affinity particles from the unbound remainder of the sample;
- (e) optionally, resuspending the affinity particles in a solution;

(f) optionally, eluting said molecule of interest from the affinity particles, followed by separating the affinity particles from said eluted molecule; the improvement wherein the affinity particles in step (a) are incubated in the presence of a detergent in an amount sufficient to reduce loss of particles during any subsequent separation step, in comparison to the same method performed in the absence of detergent, and wherein any of the steps (b), (c), (d), (e) if present, and (f) if present may optionally be also performed in the presence of detergent; and wherein said detergent is an anionic detergent selected from the group consisting of sodium dodecyl sulfate (SDS), sarkosyl, and combinations thereof; and, where present, said detergent is at a concentration of from 0.0005% to 2.0% (v/v) wherein the use of detergent is sufficient to reduce loss of particles during any separation step, in comparison to the same method performed in the absence of detergent.

Claims 35-66 (canceled)

67. (new) A method of separating particles from a solution while minimizing particle loss comprising the steps of:
- (a) combining a solution and a finely divided particulate matrix material, where said matrix material is insoluble in said solution, in the presence of a detergent;
 - (b) collecting the particles of the particulate matrix material; and
 - (c) separating the supernatant from the particulate matrix material;
- wherein said detergent is an anionic detergent and is present at a concentration of at least 0.05% (v/v).
68. (new) In a method for isolating a molecule from a sample in a vessel using affinity particles, comprising the steps of:
- (a) combining the sample containing a molecule of interest with affinity particles suitable for binding said molecule, said affinity particles being insoluble in the sample;

- (b) collecting the affinity particles;
- (c) separating the affinity particles from the unbound remainder of the sample;
- (d) optionally, resuspending the affinity particles in a solution;
- (e) optionally, eluting said molecule from the affinity particles, followed by separating the affinity particles from said eluted molecule;

the improvement wherein at least one of steps (a), (b), (c), (d) if present, and (e) if present is performed in the presence of detergent wherein the amount of detergent is sufficient to reduce loss of particles during any separation step, in comparison to the same method performed in the absence of detergent; and wherein said detergent, where present, is an anionic detergent at a concentration of at least 0.05% (v/v).

69. (new) A method of separating particles from a solution while minimizing particle loss comprising the steps of:

- (a) combining a solution and a finely divided particulate matrix material, where said matrix material is insoluble in said solution, in the presence of a detergent;
- (b) collecting the particles of the particulate matrix material; and
- (c) separating the supernatant from the particulate matrix material;

wherein the amount of said detergent is sufficient to reduce loss of particles during the separation step and wherein said detergent is an anionic detergent at a concentration not exceeding 1% (v/v).

70. (new) In a method for isolating a molecule from a sample in a vessel using affinity particles, comprising the steps of:

- (a) combining the sample containing a molecule of interest with affinity particles suitable for binding said molecule, said affinity particles being insoluble in the sample;
- (b) collecting the affinity particles;

- (c) separating the affinity particles from the unbound remainder of the sample;
- (d) optionally, resuspending the affinity particles in a solution;
- (e) optionally, eluting said molecule from the affinity particles, followed by separating the affinity particles from said eluted molecule;

the improvement wherein at least one of steps (a), (b), (c), (d) if present, and (e) if present is performed in the presence of detergent wherein the amount of detergent is sufficient to reduce loss of particles during any separation step, in comparison to the same method performed in the absence of detergent; and wherein said detergent, where present, is an anionic detergent at a concentration not exceeding 1% (v/v).

71. (new) A method of separating particles from a solution comprising the steps of:

- (a) incubating a finely divided particulate matrix material in the presence of a detergent wherein the amount of detergent is sufficient to reduce loss of particles during any separation step;
 - (b) dispersing said particulate matrix material in a solution;
 - (c) collecting the particles of the particulate matrix material; and
 - (d) separating the supernatant from the particulate matrix material,
- wherein said detergent is an anionic detergent at a concentration of at least 0.05% (v/v).

72. (new) In a method for isolating a molecule of interest from a sample in a vessel using affinity particles, comprising the steps of:

- (a) providing a multiplicity of affinity particles having a binding affinity for said molecule of interest;
- (b) combining the sample containing the molecule of interest with affinity particles suitable for binding said molecule of interest, said affinity particles being insoluble in the sample;
- (c) collecting the affinity particles;

- (d) separating the affinity particles from the unbound remainder of the sample;
 - (e) optionally, resuspending the affinity particles in a solution;
 - (f) optionally, eluting said molecule of interest from the affinity particles, followed by separating the affinity particles from said eluted molecule;
- the improvement wherein the affinity particles in step (a) are incubated in the presence of a detergent in an amount sufficient to reduce loss of particles during any subsequent separation step, in comparison to the same method performed in the absence of detergent, and wherein any of the steps (b), (c), (d), (e) if present, and (f) if present may optionally be also performed in the presence of detergent; and wherein said detergent, where present, is an anionic detergent at a concentration of at least 0.05% (v/v).

73. (new) A method of separating particles from a solution comprising the steps of:

- (a) incubating a finely divided particulate matrix material in the presence of a detergent wherein the amount of detergent is sufficient to reduce loss of particles during any separation step;
 - (b) dispersing said particulate matrix material in a solution;
 - (c) collecting the particles of the particulate matrix material; and
 - (d) separating the supernatant from the particulate matrix material,
- wherein said detergent, where present, is an anionic detergent at a concentration not exceeding 1% (v/v).

74. (new) In a method for isolating a molecule of interest from a sample in a vessel using affinity particles, comprising the steps of:

- (a) providing a multiplicity of affinity particles having a binding affinity for said molecule of interest;
- (b) combining the sample containing the molecule of interest with affinity particles suitable for binding said molecule of interest, said affinity particles being insoluble in the sample;
- (c) collecting the affinity particles;

- (d) separating the affinity particles from the unbound remainder of the sample;
 - (e) optionally, resuspending the affinity particles in a solution;
 - (f) optionally, eluting said molecule of interest from the affinity particles, followed by separating the affinity particles from said eluted molecule;
- the improvement wherein the affinity particles in step (a) are incubated in the presence of a detergent in an amount sufficient to reduce loss of particles during any subsequent separation step, in comparison to the same method performed in the absence of detergent, and wherein any of the steps (b), (c), (d), (e) if present, and (f) if present may optionally be also performed in the presence of detergent; and wherein said detergent, where present, is an anionic detergent at a concentration not exceeding 1% (v/v).

75. The method according to any of Claims 1, 2, 33, 34, and 67-74, wherein said particles are magnetic particles.